

Mr. David C. Benson
Vice President, Production and Sales
Allegheny Energy Supply
435 Northern Pike
Monroeville, PA 15146-2841

Re: 141-15421-00543
Notice Only Change to
CP 141-14198-00543

Dear Mr. Benson:

Acadia Bay Energy Company, LLC, was issued a New Source Construction (PSD) Permit on December 7, 2001, for an electric generating station. A letter notifying the Office of Air Quality of a name change and change in ownership was received on January 11, 2002.

A.1 General Information [326 IAC 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]

The Permittee owns and operates a 630 megawatt electric generating station.

Authorized Individual: ~~Chris Herter~~ **David C. Benson**
Source Address: Corner of Walnut and Edison, New Carlisle, Indiana
Mailing Address: ~~25 Merganser Way, Freeport, ME 04032~~
4350 Northern Pike, Monroeville, PA 15146
Phone Number: ~~(207) 865-4554~~ **(412) 858-1625**
SIC Code: 4911
County Location: St. Joseph
County Status: Attainment for all criteria pollutants
Source Status: Major under PSD

All other conditions of the permit shall remain unchanged and in effect. Please find a copy of the permit with the revision.

This decision is subject to the Indiana Administrative Orders and Procedures Act IC 4-21.5-3-5. If you have any questions regarding this transfer, please contact Janet Mobley at 317/232-8369 or at 1-800-451-6027, press 0 and ask for extension 2-8369.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

PD/jm

cc: File - St. Joseph County
St. Joseph County Health Department
Air Compliance Inspector - Rick Reynolds
IDEM Northern Regional Office
Compliance Data Section - Karen Nowak

Permit Review II - Janet Mobley



Frank O'Bannon
Governor

Lori F. Kaplan
Commissioner

100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015
(317) 232-8603
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NEW SOURCE CONSTRUCTION PERMIT
Prevention of Significant Deterioration (PSD) Permit
Office of Air Quality

Allegheny Energy Supply Company, LLC
Corner of Walnut and Edison
New Carlisle, IN

(herein known as the Permittee) is hereby authorized to construct and operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this permit.

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-1.1, 326 IAC 2-5.1, 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages.

This permit is also issued under the provisions of 326 IAC 2-2, 40 CFR 52.21, and 40 CFR 52.124 (Prevention of Significant Deterioration), with conditions listed on the attached pages.

Operation Permit No.: CP 141-14198-00543	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: December 7, 2001

First Notice Only Change No.: 141-15421	Pages Affected: Entire Permit
Issued by: Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date:

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SECTION A

SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]

The Permittee owns and operates a 630 megawatt electric generating station.

Authorized Individual: David C. Benson
Source Address: Corner of Walnut and Edison, New Carlisle, Indiana
Mailing Address: 4350 Northern Pike, Monroeville, PA 15146
Phone Number: (412) 858-1625
SIC Code: 4911
County Location: St. Joseph
County Status: Attainment for all criteria pollutants
Source Status: Major under PSD

A.2 Emissions units and Pollution Control Equipment Summary

This stationary source is approved to construct and operate the following emissions units and pollution control devices:

Combined Cycle

- (a) Two (2) natural gas-fired combined cycle combustion turbine generators designated as units CTG-01 and CTG-02, with a maximum heat input capacity of 2,071 MMBtu/hr (per unit on a higher heating value), and exhausting to stacks designated as S1 and S2, respectively.
- (b) Two (2) heat recovery steam generators, designated as units HRSG1 and HRSG2.
- (c) Two (2) selective catalytic reduction systems.
- (d) One (1) cooling tower, consisting of 9 cells designated as Cool1 and exhausts to stack designated as S5 (A)-(I).
- (e) One (1) auxiliary boiler, designated as unit Aux06 with maximum heat input rating of 21 MMBtu/hr, and exhausts to stack designated as S6.
- (f) One (1) condensing steam turbine generator with an electric generating capacity of 178 MW at baseload design conditions.

Simple Cycle

- (g) Two (2) natural gas-fired simple cycle combustion turbine generators designated as units CTG-03 and CTG-04 with a maximum heat input capacity of 469 MMBtu/hour (per unit on a higher heating value), and exhausting to stacks designated as S3 and S4, respectively.
- (h) One (1) emergency diesel generator utilizing low sulfur diesel fuel, with a maximum capacity of 300 KW and exhausts to stack designated as S7.

A.3 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

- (a) It is a major source, as defined in 326 IAC 2-7-1(22);
- (b) It is an affected source under Title IV (Acid Deposition Control) of the Clean Air Act, as defined in 326 IAC 2-7-1(3);
- (c) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

A.4 Acid Rain Permit Applicability [326 IAC 2-7-2]

This stationary source shall be required to have a Phase II, Acid Rain permit by 40 CFR 72.30 (Applicability) because:

- (a) The combustion turbines are new units under 40 CFR 72.6.
- (b) The source cannot operate the combustion units until their Phase II, Acid Rain permit has been issued.

- (a) Any modifications required by 326 IAC 2-1.1 and 326 IAC 2-7-10.5 as a result of a change in the design or operation of emissions units described by this permit have been obtained prior to obtaining an Operation Permit Validation Letter.
- (b) The attached Affidavit of Construction shall be submitted to the Office of Air Quality (OAQ), Permit Administration & Development Section.
 - (1) If the Affidavit of Construction verifies that the facilities covered in this Construction Permit were constructed as proposed in the application, then the facilities may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM.
 - (2) If the Affidavit of Construction does not verify that the facilities covered in this Construction Permit were constructed as proposed in the application, then the Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section prior to beginning operation of the facilities.
- (c) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.

- (d) Upon receipt of the Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section, the Permittee shall attach it to this document.
- (e) The operation permit will be subject to annual operating permit fees pursuant to 326 IAC 2-7-19 (Fees).
- (f) Pursuant to 326 IAC 2-7-4(a)(1)(A)(ii) and 326 IAC 2-5.1-4, the Permittee shall apply for a Title V operating permit within twelve (12) months of the date on which the source first meets an applicability criterion of 326 IAC 2-7-2.

B.6 NSPS Reporting Requirement

Pursuant to the New Source Performance Standards (NSPS), Part 60.7, Part 60.8, the source owner/operator is hereby advised of the requirement to report the following at the appropriate times:

- (a) Commencement of construction date (no later than 30 days after such date);
- (b) Anticipated start-up date (not more than 60 days or less than 30 days prior to such date);
- (c) Actual start-up date (within 15 days after such date); and
- (d) Date of performance testing (at least 30 days prior to such date), when required by a condition elsewhere in this permit.

Reports are to be sent to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue P.O. Box 6015
Indianapolis, IN 46206-6015

The application and enforcement of these standards have been delegated to the IDEM, OAQ. The requirements of 40 CFR Part 60 are also federally enforceable.

SECTION C

SOURCE OPERATION CONDITIONS

Entire Source

C.1 Major Source

Pursuant to 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21, and 326 IAC 2-7 (Part 70 Permit Program) this source is a major source.

C.2 Preventive Maintenance Plan [326 IAC 1-6-3]

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMP) ninety (90) days after the commencement of normal operations after the first construction phase, including the following information on each emissions unit:
- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions;
 - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.
- (b) The Permittee shall implement the Preventive Maintenance Plans as necessary to ensure that failure to implement the Preventive Maintenance Plan does not cause or contribute to a violation of any limitation on emissions or potential to emit.
- (c) PMP's shall be submitted to IDEM, OAQ upon request and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its Preventive Maintenance Plan whenever lack of proper maintenance causes or contributes to any violation.

C.3 Source Modification [326 IAC 2-7-10.5]

- (a) The Permittee must comply with the requirements of 326 IAC 2-7-10.5 whenever the Permittee seeks to construct new emissions units, modify existing emissions units, or otherwise modify the source.
- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Any such application should be certified by the "responsible official" as defined by 326 IAC 2-7-1(34) only if a certification is required by the terms of the applicable rule.

C.4 Inspection and Entry [326 IAC 2-5.1-3(e)(4)(B)] [326 IAC 2-6.1-5(a)(4)]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

- (a) Enter upon the Permittee's premises where a permitted source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) Have access to and copy, at reasonable times, any records that must be kept under this title or the conditions of this permit or any operating permit revisions;
- (c) Inspect, at reasonable times, any processes, emissions units (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit or any operating permit revisions;
- (d) Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) Utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

C.5 Transfer of Ownership or Operation [326 IAC 2-6.1-6(d)(3)]

Pursuant to [326 IAC 2-6.1-6(d)(3)]

- (a) In the event that ownership of this source is changed, the Permittee shall notify IDEM, OAQ, Permits Branch within thirty (30) days of the change.
- (b) The written notification shall be sufficient to transfer the permit to the new owner by an notice-only change pursuant to 326 IAC 2-6.1-6(d)(3).
- (c) IDEM, OAQ shall issue a revised permit.

The notification which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

C.6 Permit Revocation [326 IAC 2-1-9]

Pursuant to 326 IAC 2-1-9(a)(Revocation of Permits), this permit to construct and operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this permit.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.
- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM the fact that continuance of this permit is not consistent with purposes of this article.

C.7 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes, sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute non-overlapping integrated averages for a continuous opacity) monitor in a six (6) hour period.

C.8 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

C.9 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted by using good engineering practices (GEP) pursuant to 326 IAC 1-7-3.

Testing Requirements

C.10 Performance Testing [326 IAC 3-6]

- (a) Compliance testing on new emissions units shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, if specified in Section D of this approval. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date. The Permittee shall submit a notice of the actual test date to the above address so that it is received at least two weeks prior to the test date.

- (b) IDEM, OAQ must receive all test reports within forty-five (45) days after the completion of the testing. IDEM, OAQ may grant an extension, if the source submits to IDEM, OAQ, a reasonable written explanation within five (5) days prior to the end of the initial forty-five (45) day period.

The documentation submitted by the Permittee does not require certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

Compliance Monitoring Requirements

C.11 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

- (a) The Permittee shall prepare written emergency reduction plans (ERPs) consistent with safe operating procedures.
- (b) These ERPs shall be submitted for approval to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

within 180 days from the date on which this source commences operation.
- (c) If the ERP is disapproved by IDEM, OAQ, the Permittee shall have an additional thirty (30) days to resolve the differences and submit an approvable ERP. If after this time, the Permittee does not submit an approvable ERP, then IDEM, OAQ shall supply such a plan.
- (d) These ERPs shall state those actions that will be taken, when each episode level is declared, to reduce or eliminate emissions of the appropriate air pollutants.
- (e) Said ERPs shall also identify the sources of air pollutants, the approximate amount of reduction of the pollutants, and a brief description of the manner in which the reduction will be achieved.
- (f) Upon direct notification by IDEM, OAQ that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level. [326 IAC 1-5-3]

Pursuant to 326 IAC 1-5-3 (Implementation of ERP), the Permittee shall put into effect the actions stipulated in the approved ERP upon direct notification by OAQ that a specific air pollution episode is in effect.

C.12 Compliance Monitoring [326 IAC 2-1.1-11]

Compliance with applicable requirements shall be documented as required by this permit. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. All monitoring and record keeping requirements shall be implemented when operation begins.

C.13 Maintenance of Monitoring Equipment [IC 13-14-1-13]

- (a) In the event that a breakdown of the monitoring equipment occurs, a record shall be made of the times and reasons of the breakdown and efforts made to correct the problem. To the extent practicable, supplemental or intermittent monitoring of the parameter should be implemented at intervals no less frequent than required in Section D of this permit until such time as the monitoring equipment is back in operation. In the case of continuous monitoring, supplemental or intermittent monitoring of the parameter should be implemented at intervals no less than one (1) hour until such time as the continuous monitor is back in operation.
- (b) The Permittee shall install, calibrate, quality assure, maintain, and operate all necessary monitors and related equipment. In addition, prompt corrective action shall be initiated whenever indicated.

C.14 Monitoring Methods [326 IAC 3]

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, or other approved methods as specified in this

permit.

C.15 Actions Related to Noncompliance Demonstrated by a Stack Test

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate corrective actions. The Permittee shall submit a description of these corrective actions to IDEM, OAQ within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize emissions from the affected emissions unit while the corrective actions are being implemented. IDEM, OAQ shall notify the Permittee within thirty (30) days, if the corrective actions taken are deficient. The Permittee shall submit a description of additional corrective actions taken to IDEM, OAQ within thirty (30) days of receipt of the notice of deficiency. IDEM, OAQ reserve the authority to use enforcement activities to resolve noncompliant stack tests.
- (b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred and twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline. Failure of the second test to demonstrate compliance with the appropriate permit conditions may be grounds for immediate revocation of the permit to operate the affected emissions unit.

The documents submitted pursuant to this condition do not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

Record Keeping and Reporting Requirements

C.16 Emission Reporting [326 IAC 2-6]

Pursuant to 326 IAC 2-6, the owner/operator of this Source must annually submit an emission statement of the Source. The annual statement must be received by April 15 of each year and must contain the minimum requirements as specified in 326 IAC 2-6-4.

C.17 Malfunctions Report [326 IAC 1-6-2]

Pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):

- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) or appointed representative upon request.
- (b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAQ, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.
- (c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).
- (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

C.18 Monitoring Data Availability [326 IAC 2-6.1-2] [IC 13-14-1-13]

- (a) With the exception of performance tests conducted in accordance with Section C-Performance Testing, all observations, sampling, maintenance procedures, and record keeping, required as a condition of this permit shall be performed at all times the equipment is operating at normal representative conditions.
- (b) As an alternative to the observations, sampling, maintenance procedures, and record keeping of subsection (a) above, when the equipment listed in Section D of this permit is not operating, the Permittee shall either record the fact that the equipment is shut down or perform the observations, sampling, maintenance procedures, and record keeping that would otherwise be required by this permit.
- (c) If the equipment is operating but abnormal conditions prevail, additional observations and sampling should be taken with a record made of the nature of the abnormality.
- (d) If for reasons beyond its control, the operator fails to make required observations, sampling, maintenance procedures, or record keeping, reasons for this must be recorded.
- (e) At its discretion, IDEM may excuse such failure providing adequate justification is documented and such failures do not exceed five percent (5%) of the operating time in any quarter.
- (f) Temporary, unscheduled unavailability of staff qualified to perform the required observations, sampling, maintenance procedures, or record keeping shall be considered a valid reason for failure to perform the requirements stated in (a) above.

C.19 General Record Keeping Requirements [326 IAC 2-6.1-2]

- (a) Records of all required monitoring data and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years and available upon the request of an IDEM, OAQ representative. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a written request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Records of required monitoring information shall include, where applicable:
 - (1) The date, place, and time of sampling or measurements;
 - (2) The dates analyses were performed;
 - (3) The company or entity performing the analyses;
 - (4) The analytic techniques or methods used;
 - (5) The results of such analyses; and
 - (6) The operating conditions existing at the time of sampling or measurement.
- (c) Support information shall include, where applicable:
 - (1) Copies of all reports required by this permit;

- (2) All original strip chart recordings for continuous monitoring instrumentation;
 - (3) All calibration and maintenance records;
 - (4) Records of preventive maintenance shall be sufficient to demonstrate that failure to implement the Preventive Maintenance Plan did not cause or contribute to a violation of any limitation on emissions or potential to emit. To be relied upon subsequent to any such violation, these records may include, but are not limited to: work orders, parts inventories, and operator's standard operating procedures. Records of response steps taken shall indicate whether the response steps were performed in accordance with the Compliance Response Plan required by Section C - Compliance Monitoring Plan - Failure to take Response Steps, of this permit, and whether a deviation from a permit condition was reported. All records shall briefly describe what maintenance and response steps were taken and indicate who performed the tasks.
- (d) All record keeping requirements not already legally required shall be implemented when operation begins.

C.20 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]

- (a) To affirm that the source has met all the compliance monitoring requirements stated in this permit the source shall submit a Semi-annual Compliance Monitoring Report. Any deviation from the requirements and the date(s) of each deviation must be reported. The Compliance Monitoring Report shall include the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015
- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (d) Unless otherwise specified in this permit, any semi-annual report shall be submitted within thirty (30) days of the end of the reporting period. The reports require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (e) All instances of deviations must be clearly identified in such reports. A reportable deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit or a rule. It does not include:
 - (1) An excursion from compliance monitoring parameters as identified in Section D of this permit unless tied to an applicable rule or limit; or
 - (2) A malfunction as described in 326 IAC 1-6-2; or
 - (3) Failure to implement elements of the Preventive Maintenance Plan unless lack of maintenance has caused or contributed to a deviation.

- (4) Failure to make or record information required by the compliance monitoring provisions of Section D unless such failure exceeds 5% of the required data in any calendar quarter.

A Permittee's failure to take the appropriate response step when an excursion of a compliance monitoring parameter has occurred or failure to monitor or record the required compliance monitoring is a deviation.

- (f) Any corrective actions or response steps taken as a result of each deviation must be clearly identified in such reports.
- (g) The first report shall cover the period commencing on the date start of normal operation after the first phase of construction and ending on the last day of the reporting period.

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS – Combined Cycle Combustion Turbines

- (a) Two (2) natural gas-fired combined cycle combustion turbine generators designated as units CTG-01 and CTG-02, with a maximum heat input capacity of 2,071 MMBtu/hr (per unit on a higher heating value), and exhausting to stacks designated as S1 and S2, respectively.
- (b) Two (2) heat recovery steam generators, designated as units HRSG1 and HRSG2.
- (c) Two (2) selective catalytic reduction systems.
- (d) One (1) cooling tower, consisting of 9 cells designated as Cool1 and exhausts to stack designated as S5 (A)-(I).
- (e) One (1) condensing steam turbine generator with an electric generating capacity of 178 MW at baseload design conditions.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards

D.1.1 Particulate Matter (PM/PM₁₀) Emission Limitations for Combined Cycle Combustion Turbines [326 IAC 2-2]

- (a) Pursuant to 326 IAC 2-2 (PSD Requirements), the PM (filterable) emissions or PM₁₀ (filterable and condensible), emissions from each combined cycle combustion turbine shall not exceed 0.012 pounds per MMBtu (lower heating value basis) which is equivalent to 23 pounds per hour.
- (b) Pursuant to 326 IAC 6-1-2(a), the PM emissions from each combustion turbine stack shall not exceed 0.03 grains per dry standard cubic feet.

D.1.2 Opacity Limitations [326 IAC 2-2]

Pursuant to 326 IAC 2-2 (PSD Requirements) the opacity from each combustion turbine stack shall not exceed twenty (20) percent (6-minute average), except for one 6-minute period per hour of not more than 27 percent. The opacity standards apply at all times, except during periods of startup, shutdown or malfunction. This satisfies the opacity limitations required by 326 IAC 5-1 (Opacity Limitations).

D.1.3 Nitrogen Oxides (NO_x) Emission Limitations for Combined Cycle Combustion Turbines [326 IAC 2-2]

- (a) Pursuant to 326 IAC 2-2 (PSD Requirements) each combined cycle combustion turbine shall comply with the following, excluding startup and shutdown periods:
 - (1) During normal combined cycle operation (seventy (70) percent load or more), the NO_x emissions from each combined cycle combustion turbine stack shall not exceed 2.5 ppmvd corrected to fifteen (15) percent oxygen, based on a three (3) hour block average period, which is equivalent to 18.7 pounds per hour.
 - (2) Each combustion turbine shall be equipped with dry low-NO_x burners and operated using good combustion practices to control NO_x emissions.
 - (3) A selective catalytic reduction (SCR) system shall be installed and operated at all times, except during periods of startup and shutdown, to control NO_x emissions.

- (4) Use natural gas as the only fuel.
- (b) Pursuant to 326 IAC 2-2 (PSD Requirements), the annual NO_x emission from the combined cycle combustion turbine, excluding startup and shutdown emissions, shall not exceed 142.91 tons per year.

D.1.4 Carbon Monoxide (CO) Emission Limitations for Combined Cycle Combustion Turbines
[326 IAC 2-2]

- (a) Pursuant to 326 IAC 2-2 (PSD Requirements), each combined cycle combustion turbine shall comply with the following, excluding startup and shutdown periods:
 - (1) During normal combined cycle operation (seventy (70) percent load or more), the CO emissions from each combined cycle combustion turbine shall not exceed 6 ppmvd corrected to 15% O₂ on a 24 hour block average period, which is equivalent to 27.3 pounds per hour.
 - (2) Good combustion practices shall be applied to minimize CO emissions.
 - (3) Use natural gas as the only fuel
 - (4) From the date of start of commercial operation of combined cycle combustion turbines, the facility will have 6 months to evaluate the ability to achieve a CO limit of 6 ppmvd at 15% O₂ based on a 24-hour block average, without an oxidation catalyst. If this limit cannot be achieved after the 6 months evaluation period, the facility will have 18 months from the date of the start of commercial operation of combined cycle combustion turbines to install an oxidation catalyst and demonstrate compliance with the specified limit.
- (b) Pursuant to 326 IAC 2-2 (PSD Requirements), the annual CO emission from the combined cycle combustion turbine, excluding startup and shutdown emissions, shall not exceed 112 tons per year.

D.1.5 Sulfur Dioxide (SO₂) Emission Limitations for Combined Cycle Combustion Turbines
[326 IAC 2-2]

Pursuant to 326 IAC 2-2 (PSD Requirements), each combined cycle combustion turbine shall comply with the following:

- (1) the SO₂ emissions from each combined cycle combustion turbine shall not exceed 0.0034 pounds per MMBtu (lower heating value basis), which is equivalent to 6.0 pounds per hour.
- (2) The use of low sulfur natural gas as the only fuel for the combustion turbines. The sulfur content of the natural gas shall not exceed 0.007 percent by weight (two (2) grains per 100 scf).
- (3) Perform good combustion practice.

D.1.6 Volatile Organic Compound (VOC) Emission Limitations for Combined Cycle Combustion Turbines [326 IAC 2-2] [326 IAC 8-1-6]

Pursuant to 326 IAC 8-1-6 (VOC Requirements) and 326 2-2 (PSD Requirements), the following requirements must be met:

- (1) The VOC emissions from each combined cycle combustion turbine shall not exceed 0.0034 pounds per MMBtu (lower heating value basis), which is equivalent to 6.0 pounds VOC per hour.

- (2) The use of natural gas as the only fuel.
- (3) Good combustion practice shall be implemented to minimize VOC emissions.

D.1.7 40 CFR 60, Subpart GG (Stationary Gas Turbines)

Two (2) natural gas combined cycle combustion turbines identified as CTG-01 and CTG-02 are subject to 40 CFR Part 60, Subpart GG (Stationary Gas Turbines) because the heat input at peak load is equal to or greater than 10.7 gigajoules per hour (10 MMBtu per hour), based on the lower heating value of the fuel fired.

Pursuant to 326 IAC 12-1 and 40 CFR 60, Subpart GG (Stationary Gas Turbines), the Permittee shall:

- (1) Limit nitrogen oxides emissions from the natural gas turbines to 0.0113% by volume at 15% oxygen on a dry basis, as required by 40 CFR 60.332, to:

$$\text{STD} = 0.0075 \frac{(14.4)}{Y} + F,$$

where STD = allowable NO_x emissions (percent by volume at 15 percent oxygen on a dry basis).

Y = manufacturer's rated heat rate at manufacturer's rated load (kilojoules per watt hour) or, actual measured heat rate based on lower heating value of fuel as measured at actual peak load for the facility. The value of Y shall not exceed 14.4 kilojoules per watt-hour.

F = NO_x emission allowance for fuel-bound nitrogen as defined in paragraph (a)(3) of 40 CFR 60.332.

- (2) Limit sulfur dioxide emissions, as required by 40 CFR 60.333, to 0.015 percent by volume at 15 percent oxygen on a dry basis, or use natural gas fuel with a sulfur content less than or equal to 0.8 percent by weight.

D.1.8 Formaldehyde Limitations [326 IAC 2-4.1-1]

The formaldehyde emission from the combined cycle combustion turbines shall not exceed 0.000202 lb/MMBtu. This shall limit the combined formaldehyde emissions from the entire source to less than ten (10) tons per year and make requirements of 326 IAC 2-4.1 not applicable. Any increase in single Hazardous Air Pollutant (HAP) emissions greater than the threshold specified above and combined HAPs greater than twenty five (25) tons per year, from the entire Source must be approved by the Office of Air Quality (OAQ) before such change may occur.

D.1.9 Ammonia Limitations [326 IAC 2-1.1-5]

Pursuant to 326 IAC 2-1.1-5 (Air Quality Requirements), the ammonia emissions from each combined cycle combustion turbine stack:

- (a) shall not exceed ten (10) ppmvd corrected to 15% O₂ on 3 hour block average basis, and
- (b) shall not exceed 226 tons per calendar year.

D.1.10 Startup and Shutdown Limitations for Combined Cycle Combustion Turbines [326 IAC 2-2]

Pursuant to 326 IAC 2-2 (PSD Requirements), following shall apply to the combined cycle combustion turbines:

- (a) Two (2) combined cycle combustion turbines are organized in a power block.
- (b) Startup is defined as the period of time from initiation of combustion firing until both units in the power block reach steady state operation (i.e. loads greater than 70%).

- (c) Shutdown is defined as that period of time from the initial lowering of the turbine output, with the intent to shutdown, until the time at which the combustion is completely stopped.
- (d) Power block (consisting of two turbines) shall comply with the following:
 - i. The maximum number of events (where one event is one startup and one shutdown) shall not exceed 210 per 12 consecutive months period rolled on monthly basis as determined at the end of each calendar month. The duration of an event shall not exceed 4.16 hours. The total number of hours under startup/shutdown mode shall not exceed 585 hours per 12 consecutive months period rolled on monthly basis.
 - ii. The NO_x emissions from power block shall not exceed 1078 pounds per event.
 - iii. The CO emissions from power block shall not exceed 3935 pounds per event.

D.1.11 Particulate Matter Emissions (PM/PM₁₀) for Cooling Tower [326 IAC 2-2]

Pursuant to 326 IAC 2-2 (PSD Requirements) each cooling tower shall comply with the following:

- (1) PM emissions shall not exceed 0.49 pounds per hour, and
- (2) Employ good design and operation practices to limit emissions from the cooling towers.

D.1.12 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for each combustion turbine and its control device.

Compliance Determination Requirements

D.1.13 Performance Testing

- (a) Pursuant to 326 IAC 3-5 the Permittee shall conduct a performance test, no later than one-hundred and eighty days (180) after the facility startup or monitor installation, on the combined cycle combustion turbine exhaust stack in order to certify the continuous emission monitoring systems for NO_x and CO.
- (b) Within one hundred and eighty (180) days after initial startup, the Permittee shall perform formaldehyde stack test for each combined cycle combustion turbine stack utilizing a method approved by the Commissioner when operating at 75%, and 100% load. These tests shall be performed in accordance with Section C – Performance Testing, in order to verify the formaldehyde emission factor specified in condition D.1.8.
- (c) Within sixty (60) days of achieving maximum production rate, but no later than one-hundred and eighty (180) days after initial startup, the Permittee shall conduct NO_x and SO₂ stack tests for each combined cycle combustion turbine stack utilizing methods approved by the Commissioner. These tests shall be performed in accordance with 40 CFR 60.335 and Section C – Performance Testing, in order to document compliance with Condition D.1.7.
- (d) Within one-hundred and eighty (180) days after initial startup, the Permittee shall perform VOC, and ammonia stack tests for each combined cycle combustion turbine stack utilizing methods approved by the Commissioner. These tests shall be performed in accordance with 40 CFR 60.335, 40 CFR 60.48(a), and Section C – Performance Testing, in order to document compliance with D.1.6, and D.1.9.

- (e) IDEM, OAQ retain the authority under 326 IAC 2-1-4(f) to require the Permittee to perform additional and future compliance testing as necessary.

D.1.14 Oxides of Nitrogen NO_x (SCR operation) [326 IAC 2-2]

- (a) Pursuant to 326 IAC 2-2 (PSD requirements), the Permittee shall determine optimum temperature of the catalyst bed during the stack test requirement in condition D.1.13 (a) (d) that demonstrates compliance with limits in condition D.1.3, as approved by IDEM.
- (b) From the date of the valid stack test, during a startup, the Permittee shall start ammonia injection in the SCR units to control NO_x emissions from the gas turbines, as soon as the catalyst bed reaches the temperature determined in part (a) above or turbine load reaches 70%, whichever occurs earlier.

D.1.15 40 CFR Part 60, Subpart GG Compliance Requirements (Stationary Gas Turbines)

Pursuant to 40 CFR Part 60, Subpart GG (Stationary Gas Turbines), the Permittee shall monitor the nitrogen and sulfur content of the natural gas on a monthly basis as follows:

- (a) Determine compliance with the nitrogen oxide and sulfur dioxide standards in 40 CFR 60.332 and 60.333(a), per requirements described in 40 CFR 60.335(c);
- (b) Determine the sulfur content of the natural gas being fired in the turbine by ASTM Methods D 1072-80, D 3031-81, D 4084-82, D 3246-81, or other applicable methods approved by IDEM. The applicable ranges of some ASTM methods mentioned are not adequate to measure the levels of sulfur in some fuel gases. Dilution of samples before analysis (with verification of the dilution ratio) may be used, subject to the approval of the Administrator; and
- (c) Determine the nitrogen content of the natural gas being fired in the turbine by using analytical methods and procedures that are accurate to within 5 percent and are approved by the Administrator.

The analyses required above may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor or any other qualified agency.

Owners, operators or fuel vendors may develop custom fuel schedules for determination of the nitrogen and sulfur content based on the design and operation of the affected facility and the characteristics of the fuel supply. These schedules shall be substantiated with data and must be approved by the Administrator before they can be used to comply with the above requirements.

D.1.16 Continuous Emission Monitoring (CEMs)

- (a) The owner or operator of a new source with an emission limitation or permit requirement established under 326 IAC 2-5.1-3 and 326 IAC 2-2, shall be required to install a continuous emissions monitoring system or alternative monitoring plan as allowed under the Clean Air Act and 326 IAC 3-5-1(d).
- (b) The Permittee shall install, calibrate, certify, operate and maintain a continuous emission monitoring system for NO_x and CO, for stacks designated as 1 and 2 in accordance with 326 IAC 3-5-2 through 326 IAC 3-5-7.
 - (1) The continuous emission monitoring system (CEMS) shall measure NO_x and CO emissions rates in parts per million (ppmvd) corrected to 15% O₂. The use of CEMS to measure and record the NO_x and CO concentration, is sufficient to demonstrate compliance with the limitations established in the BACT analysis and set forth in the permit. To demonstrate compliance with the NO_x limit, the

source shall take an average of the parts per million (ppm) corrected to 15% O₂ over a three (3) hour block. To demonstrate compliance with the CO limit, the source shall take an average of the parts per million (ppm) corrected to 15% O₂ over a twenty four (24) hour averaging period. The source shall maintain records of the parts per million and the pounds per hour, using Method 19.

- (2) The Permittee shall determine compliance with Condition D.1.10 utilizing data from the NO_x, CO, and O₂ CEMS, the fuel flow meter, and Method 19 calculations.
 - (3) The Permittee shall submit to IDEM, OAQ, within ninety (90) days after monitor installation, a complete written continuous monitoring standard operating procedure (SOP), in accordance with the requirements of 326 IAC 3-5-4.
 - (4) The Permittee shall record the output of the system and shall perform the required record keeping, pursuant to 326 IAC 3-5-6, and reporting, pursuant to 326 IAC 3-5-7.
- (c) Pursuant to 40 CFR 60.47(d), the Permittee shall install, calibrate, certify and operate continuous emissions monitors for carbon dioxide or oxygen at each location where nitrogen oxide emissions are monitored.

Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.1.17 Record Keeping Requirements

- (a) To document compliance with Conditions D.1.1, D.1.5, D.1.6 and D.1.8, the Permittee shall maintain records of the following:
 - (1) Amount of natural gas combusted (in MMCF) per turbine during each month.
 - (2) Percent sulfur of the natural gas.
 - (3) Heat input on a lower heating value basis of each turbine on a 30-day rolling average.
- (b) To document compliance with Condition D.1.10, the Permittee shall maintain records of the following:
 - (1) The type of operation (i.e. startup or shutdown) with supporting operational data
 - (2) The total number of minutes for startup or shutdown per 24-hour averaging period per turbine
 - (3) The CEMS data, fuel flow meter data, and Method 19 calculations corresponding to each startup and shutdown period.
- (c) To document compliance with Conditions D.1.3 and D.1.4, the Permittee shall maintain records of the emission rates of NO_x and CO in pounds per hour and parts per million (ppmvd) corrected to 15% oxygen.
- (d) To document compliance with Condition D.1.15, the Permittee shall maintain records, including raw data of all monitoring data and supporting information, for a minimum of five (5) years from the date described in 326 IAC 3-5-7(a). The records shall include the information described in 326 IAC 3-5-7(b).

- (e) All records shall be maintained in accordance with Section C – General Record Keeping Requirements, of this permit.

D.1.18 Reporting Requirements

The Permittee shall submit the following information on a quarterly basis:

- (a) Records of excess NO_x and CO emissions (defined in 326 IAC 3-5-7 and 40 CFR Part 60.7) from the continuous emissions monitoring system. These reports shall be submitted within thirty (30) calendar days following the end of each calendar quarter and in accordance with Section C – General Reporting Requirements of this permit.
- (b) The Permittee shall report periods of excess emissions, as required by 40 CFR 60.334(c).
- (c) A quarterly summary of the CEMs data to document compliance with D.1.3 and D.1.4 shall be submitted to the address listed in Section C – General Reporting Requirements, of this permit, within thirty (30) days after the end of the quarter being reported.
- (d) A quarterly summary of the total number of startup and shutdown hours of operation, and emissions for the corresponding startup and shutdown to document compliance with Condition D.1.10, shall be submitted to the address listed in Section C – General Reporting Requirements, of this permit, within thirty (30) days after the end of the quarter being reported.

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS – Simple Cycle Combustion Turbines

Two (2) natural gas-fired simple cycle combustion turbine generators designated as units CTG-03 and CTG-04 with a maximum heat input capacity of 469 MMBtu/hour (per unit on a higher heating value), and exhausting to stacks designated as S3 and S4, respectively.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards

D.2.1 Simple Cycle Combustion Turbines limitations on Hours of Operation [326 IAC 2-2]

- (a) Pursuant to 326 IAC 2-2 (PSD Requirements), the total collective hours of operation for the two simple cycle combustion turbine shall not exceed 7000 per 12 consecutive months period rolled on monthly basis.
- (b) Pursuant to 326 IAC 6-1-2(a), the PM emissions from each combustion turbine stack shall not exceed 0.03 grains per dry standard cubic feet.

D.2.2 Particulate Matter (PM/PM₁₀) Emission Limitations for Simple Cycle Combustion Turbines [326 IAC 2-2]

Pursuant to 326 IAC 2-2 (PSD Requirements), the PM (filterable) emissions or PM₁₀ (filterable and condensable), emissions from each simple cycle combustion turbine shall not exceed 0.00675 pounds per MMBtu (lower heating value basis) which is equivalent to 2.7 pounds per hour.

D.2.3 Opacity Limitations [326 IAC 2-2]

Pursuant to 326 IAC 2-2 (PSD Requirements) the opacity from each combustion turbine stack shall not exceed twenty (20) percent (6-minute average), except for one 6-minute period per hour of not more than 27 percent. The opacity standards apply at all times, except during periods of startup, shutdown or malfunction. This satisfies the opacity limitations required by 326 IAC 5-1 (Opacity Limitations).

D.2.4 Nitrogen Oxides (NO_x) Emission Limitations for Simple Cycle Combustion Turbines [326 IAC 2-2]

- (a) Pursuant to 326 IAC 2-2 (PSD Requirements) each simple cycle combustion turbine shall comply with the following, excluding startup and shutdown periods:
 - (1) During normal simple cycle operation (seventy (70) percent load or more), the NO_x emissions from each simple cycle combustion turbine stack shall not exceed 25 ppmvd corrected to fifteen (15) percent oxygen, based on a twenty four (24) operating hour averaging period, which is equivalent to 42 pounds per hour.
 - (2) Each combustion turbine shall be equipped with water injection for NO_x control and operated using good combustion practices to control NO_x emissions.
 - (3) Use natural gas as the only fuel.
- (b) Pursuant to 326 IAC 2-2 (PSD Requirements), the annual NO_x emission from the simple cycle combustion turbine, excluding startup and shutdown emissions, shall not exceed 140 tons per year.

D.2.5 Carbon Monoxide (CO) Emission Limitations for Simple Cycle Combustion Turbines [326 IAC 2-2]

- (a) Pursuant to 326 IAC 2-2 (PSD Requirements), each simple cycle combustion turbine shall comply with the following, excluding startup and shutdown periods:

- (1) During normal simple cycle operation (seventy (70) percent load or more), the CO emissions from each simple cycle combustion turbine shall not exceed limits in following table corrected to 15% O₂ on a 24 operating hour averaging period.

Ambient temperature range	CO emissions concentration in ppmvd at 15% O ₂
Greater than 70°F	25
From 30°F to 70°F	50
From 0°F to 30°F	75
Less than 0°F	100

- (2) Good combustion practices shall be applied to minimize CO emissions.
- (3) Use natural gas as the only fuel
- (b) Pursuant to 326 IAC 2-2 (PSD Requirements), the annual CO emission from the simple cycle combustion turbines, excluding startup and shutdown emissions, shall not exceed 116 tons per year.

D.2.6 Sulfur Dioxide (SO₂) Emission Limitations for Simple Cycle Combustion Turbines [326 IAC 2-2]

Pursuant to 326 IAC 2-2 (PSD Requirements), each simple cycle combustion turbine shall comply with the following:

- (1) the SO₂ emissions from each simple cycle combustion turbine shall not exceed 0.0035 pounds per MMBtu (lower heating value basis).
- (2) The use of low sulfur natural gas as the only fuel for the combustion turbines. The sulfur content of the natural gas shall not exceed 0.007 percent by weight (two (2) grains per 100 scf).
- (3) Perform good combustion practice.

D.2.7 Volatile Organic Compound (VOC) Emission Limitations for Simple Cycle Combustion Turbines [326 IAC 2-2] [326 IAC 8-1-6]

Pursuant to 326 IAC 8-1-6 (VOC Requirements) and 326 2-2 (PSD Requirements), the following requirements must be met:

- (1) The VOC emissions from each simple cycle combustion turbine shall not exceed 0.02 pounds per MMBtu (lower heating value basis), which is equivalent to 8.0 pounds VOC per hour.
- (2) The use of natural gas as the only fuel.
- (3) Good combustion practice shall be implemented to minimize VOC emissions.

D.2.8 40 CFR 60, Subpart GG (Stationary Gas Turbines)

Two (2) natural gas simple cycle combustion turbines identified as CTG-03 and CTG-04 are subject to 40 CFR Part 60, Subpart GG (Stationary Gas Turbines) because the heat input at peak load is equal to or greater than 10.7 gigajoules per hour (10 MMBtu per hour), based on the lower heating value of the fuel fired.

Pursuant to 326 IAC 12-1 and 40 CFR 60, Subpart GG (Stationary Gas Turbines), the Permittee shall:

- (1) Limit nitrogen oxides emissions from the natural gas turbines to 0.0113% by volume at 15% oxygen on a dry basis, as required by 40 CFR 60.332, to:

$$\text{STD} = 0.0075 \frac{(14.4)}{Y} + F,$$

where STD = allowable NO_x emissions (percent by volume at 15 percent oxygen on a dry basis).

Y = manufacturer's rated heat rate at manufacturer's rated load (kilojoules per watt hour) or, actual measured heat rate based on lower heating value of fuel as measured at actual peak load for the facility. The value of Y shall not exceed 14.4 kilojoules per watt-hour.

F = NO_x emission allowance for fuel-bound nitrogen as defined in paragraph (a)(3) of 40 CFR 60.332.

- (2) Limit sulfur dioxide emissions, as required by 40 CFR 60.333, to 0.015 percent by volume at 15 percent oxygen on a dry basis, or use natural gas fuel with a sulfur content less than or equal to 0.8 percent by weight.

D.2.9 Formaldehyde Limitations [326 IAC 2-4.1-1]

The formaldehyde emission from the simple cycle combustion turbines shall not exceed 0.00113 lb/MMBtu. This shall limit the combined formaldehyde emissions from the entire source to less than ten (10) tons per year and make requirements of 326 IAC 2-4.1 not applicable. Any increase in single Hazardous Air Pollutant (HAP) emissions greater than the threshold specified above and combined HAPs greater than twenty five (25) tons per year, from the entire Source must be approved by the Office of Air Quality (OAQ) before such change may occur.

D.2.10 Startup and Shutdown Limitations for Simple Cycle Combustion Turbines [326 IAC 2-2]

Pursuant to 326 IAC 2-2 (PSD Requirements), the following shall apply to the simple cycle combustion turbines:

- (a) Startup is defined as the period of time from initiation of combustion firing until simple cycle combustion turbine reaches steady state operation (i.e. loads greater than 70%).
- (b) Shutdown is defined as that period of time from the initial lowering of the turbine output, with the intent to shutdown, until the time at which the combustion is completely stopped.
- (c) Simple Cycle Combustion Turbines shall comply with the following:
- The maximum number of events (where one event is one startup and one shutdown) for each simple cycle combustion turbine shall not exceed 500 per 12 consecutive months period rolled on monthly basis as determined at the end of each calendar month. The duration of an event shall not exceed 0.35 hours. The total number of hours under startup/shutdown mode shall not exceed 175 hours per 12 consecutive months period rolled on monthly basis.
 - The NO_x emissions for each Simple Cycle Combustion Turbine shall not exceed 36 pounds per event.
 - The CO emissions from each Simple Cycle Combustion Turbines shall not exceed 29.2 pounds per event.

D.2.11 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for each combustion turbine and its control device.

Compliance Determination Requirements

D.2.12 Performance Testing

- (a) Pursuant to 326 IAC 3-5 the Permittee shall conduct a performance test, no later than one-hundred and eighty days (180) after the facility startup or monitor installation, on the simple cycle combustion turbine exhaust stack in order to certify the continuous emission monitoring systems for NO_x and CO.
- (b) Within one hundred and eighty (180) days after initial startup, the Permittee shall perform formaldehyde stack test for each simple cycle combustion turbine stack utilizing a method approved by the Commissioner when operating at 75%, and 100% load. These tests shall be performed in accordance with Section C – Performance Testing, in order to verify the formaldehyde emission factor specified in condition D.2.9.
- (c) Within sixty (60) days of achieving maximum production rate, but no later than one-hundred and eighty (180) days after initial startup, the Permittee shall conduct NO_x and SO₂ stack tests for each simple cycle combustion turbine stack utilizing methods approved by the Commissioner. These tests shall be performed in accordance with 40 CFR 60.335 and Section C – Performance Testing, in order to document compliance with Condition D.2.8.
- (d) Within one-hundred and eighty (180) days after initial startup, the Permittee shall perform VOC stack tests for each simple cycle combustion turbine stack utilizing methods approved by the Commissioner. These tests shall be performed in accordance with 40 CFR 60.335, 40 CFR 60.48(a), and Section C – Performance Testing, in order to document compliance with D.2.7.
- (e) IDEM, OAQ retain the authority under 326 IAC 2-1-4(f) to require the Permittee to perform additional and future compliance testing as necessary.

D.2.13 40 CFR Part 60, Subpart GG Compliance Requirements (Stationary Gas Turbines)

Pursuant to 40 CFR Part 60, Subpart GG (Stationary Gas Turbines), the Permittee shall monitor the nitrogen and sulfur content of the natural gas on a monthly basis as follows:

- (a) Determine compliance with the nitrogen oxide and sulfur dioxide standards in 40 CFR 60.332 and 60.333(a), per requirements described in 40 CFR 60.335(c);
- (b) Determine the sulfur content of the natural gas being fired in the turbine by ASTM Methods D 1072-80, D 3031-81, D 4084-82, D 3246-81, or other applicable methods approved by IDEM. The applicable ranges of some ASTM methods mentioned are not adequate to measure the levels of sulfur in some fuel gases. Dilution of samples before analysis (with verification of the dilution ratio) may be used, subject to the approval of the Administrator; and
- (c) Determine the nitrogen content of the natural gas being fired in the turbine by using analytical methods and procedures that are accurate to within 5 percent and are approved by the Administrator.

The analyses required above may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor or any other qualified agency.

Owners, operators or fuel vendors may develop custom fuel schedules for determination of the nitrogen and sulfur content based on the design and operation of the affected facility and the characteristics of the fuel supply. These schedules shall be substantiated with data and must be approved by the Administrator before they can be used to comply with the above requirements.

D.2.14 Continuous Emission Monitoring (CEMs)

- (a) The owner or operator of a new source with an emission limitation or permit requirement established under 326 IAC 2-5.1-3 and 326 IAC 2-2, shall be required to install a continuous emissions monitoring system or alternative monitoring plan as allowed under the Clean Air Act and 326 IAC 3-5-1(d).
- (b) The Permittee shall install, calibrate, certify, operate and maintain a continuous emission monitoring system for NO_x and CO, for stacks designated as 3 and 4 in accordance with 326 IAC 3-5-2 through 326 IAC 3-5-7.
 - (1) The continuous emission monitoring system (CEMS) shall measure NO_x and CO emissions in parts per million (ppmvd) corrected to 15% O₂. The use of CEMS to measure and record the NO_x and CO concentration, is sufficient to demonstrate compliance with the limitations established in the BACT analysis and set forth in the permit. To demonstrate compliance with the NO_x limit, the source shall take an average of the parts per million (ppm) corrected to 15% O₂ over a twenty four (24) hour block. To demonstrate compliance with the CO limit, the source shall take an average of the parts per million (ppm) corrected to 15% O₂ over a twenty four (24) hour averaging period. The source shall maintain records of the parts per million and the pounds per hour, using Method 19.
 - (2) The Permittee shall determine compliance with Condition D.2.10 utilizing data from the NO_x, CO, and O₂ CEMS, the fuel flow meter, and Method 19 calculations.
 - (3) The Permittee shall submit to IDEM, OAQ, within ninety (90) days after monitor installation, a complete written continuous monitoring standard operating procedure (SOP), in accordance with the requirements of 326 IAC 3-5-4.
 - (4) The Permittee shall record the output of the system and shall perform the required record keeping, pursuant to 326 IAC 3-5-6, and reporting, pursuant to 326 IAC 3-5-7.
- (c) Pursuant to 40 CFR 60.47(d), the Permittee shall install, calibrate, certify and operate continuous emissions monitors for carbon dioxide or oxygen at each location where nitrogen oxide emissions are monitored.

Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.2.15 Record Keeping Requirements

- (a) To document compliance with Conditions D.2.1, D.2.6, D.2.7 and D.2.9, the Permittee shall maintain records of the following:
 - (1) Hours of operation of each simple cycle combustion turbine during each month.
 - (2) Amount of natural gas combusted (in MMCF) per turbine during each month.
 - (3) Percent sulfur of the natural gas.

- (4) Heat input on a lower heating value basis of each turbine on a 30-day rolling average.
- (b) To document compliance with Condition D.2.10, the Permittee shall maintain records of the following:
 - (1) The type of operation (i.e. startup or shutdown) with supporting operational data
 - (2) The total number of minutes for startup or shutdown per 24-hour averaging period per turbine
 - (3) The CEMS data, fuel flow meter data, and Method 19 calculations corresponding to each startup and shutdown period.
- (c) To document compliance with Conditions D.2.4 and D.2.5, the Permittee shall maintain records of the emission rates of NO_x and CO in pounds per hour and parts per million (ppmvd) corrected to 15% oxygen.
- (d) To document compliance with Condition D.2.13, the Permittee shall maintain records, including raw data of all monitoring data and supporting information, for a minimum of five (5) years from the date described in 326 IAC 3-5-7(a). The records shall include the information described in 326 IAC 3-5-7(b).
- (e) All records shall be maintained in accordance with Section C – General Record Keeping Requirements, of this permit.

D.2.16 Reporting Requirements

The Permittee shall submit the following information on a quarterly basis:

- (e) Records of excess NO_x and CO emissions (defined in 326 IAC 3-5-7 and 40 CFR Part 60.7) from the continuous emissions monitoring system. These reports shall be submitted within thirty (30) calendar days following the end of each calendar quarter and in accordance with Section C – General Reporting Requirements of this permit.
- (f) The Permittee shall report periods of excess emissions, as required by 40 CFR 60.334(c).
- (g) A quarterly summary of the CEMs data to document compliance with D.2.4 and D.2.5 shall be submitted to the address listed in Section C – General Reporting Requirements, of this permit, within thirty (30) days after the end of the quarter being reported.

A quarterly summary of the total number of startup and shutdown hours of operation, and emissions for the corresponding startup and shutdown to document compliance with Condition D.2.10, shall be submitted to the address listed in Section C – General Reporting Requirements, of this permit, within thirty (30) days after the end of the quarter being reported.

SECTION D.3 FACILITY CONDITIONS – Auxiliary Boiler

One (1) auxiliary boiler, designated as unit Aux06 with maximum heat input rating of 21 MMBtu/hr, and exhausts to stack designated as S6.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards

D.3.1 Particulate Matter Emissions (PM/PM₁₀) for Auxiliary Boiler [326 IAC 2-2]

- (a) Pursuant to 326 IAC 2-2 (PSD Requirements) each auxiliary boiler shall comply with the following:
 - (i) The PM (filterable only) or PM₁₀ (filterable and condensable) emissions from the auxiliary boiler shall not exceed 0.0075 lb/MMBtu on a higher heating value basis, which is equivalent to 0.158 pounds per hour.
 - (ii) Use natural gas as the only fuel for the auxiliary boilers.
 - (iii) Perform good combustion practices
- (b) Pursuant to 326 IAC 6-1-2(b)(1) the PM emissions from auxiliary boiler shall be less than 0.01 grains per dry standard cubic feet (dscf).

D.3.2 Opacity Limitations [326 IAC 2-2]

Pursuant to 326 IAC 2-2, the Permittee shall not cause the average opacity of the auxiliary boiler stack to exceed twenty percent (20%) in any one (1) six (6) minute period, except for 1 six minute period per hour of not more than 27% opacity. The opacity standards apply at all times, except during periods of startup, shutdown, or malfunction.

D.3.3 Nitrogen Oxide (NO_x) Emission Limitations for Auxiliary Boiler [326 IAC 2-2]

Pursuant to 326 IAC 2-2 (PSD Requirements), the auxiliary boiler shall comply with the following:

- (a) The NO_x emissions from the auxiliary boiler shall not exceed 0.049 lb/MMBtu on a higher heating value basis, which is equivalent to 1.029 pounds per hour.
- (b) Use natural gas as the only fuel for the auxiliary boiler.
- (c) Operate the auxiliary boiler using low-NO_x burners.

D.3.4 Carbon Monoxide (CO) Emission Limitations for Auxiliary Boiler [326 IAC 2-2]

Pursuant to 325 IAC 2-2 (PSD Requirements) the auxiliary boiler shall comply with the following:

- (a) The CO emissions from the auxiliary boiler shall not exceed 0.082 lb/MMBtu on a higher heating value basis, which is equivalent to 1.72 pounds per hour.
- (b) Use natural gas as the only fuel for the auxiliary boiler.
- (c) Operate utilizing good combustion practices.

D.3.5 Sulfur Dioxide (SO₂) Emission Limitations for Auxiliary Boiler [326 IAC 2-2]

Pursuant to 326 IAC 2-2 (PSD Requirements) the auxiliary boiler shall comply with the following:

- (a) Emissions from the auxiliary boiler shall not exceed 0.0006 lb/MMBtu on a higher heating value basis, which is equivalent to 0.012 pounds per hour.
- (b) Use natural gas, with a sulfur content of less than or equal to 0.8 percent by weight, as the only fuel for the auxiliary boilers.
- (c) Operate utilizing good combustion practices.

D.3.6 Volatile Organic Compound (VOC) Emission Limitations for Auxiliary Boiler [326 IAC 2-2]

Pursuant to 326 IAC 2-2 (PSD Requirements) and 326 IAC 8-1-6 (General Reduction Requirements) the auxiliary boiler shall comply with the following:

- (a) The VOC emissions from the auxiliary boiler shall not exceed 0.0054 lb/MMBtu on a higher heating value basis, which is equivalent to 0.12 pounds per hour.
- (b) Use natural gas as the only fuel for the auxiliary boiler.
- (c) Operate using good combustion practices.

D.3.7 40 CFR Part 60 Subpart Dc (New Source Performance Standards for Small Industrial Commercial-Institutional Steam Generating Units)

Pursuant to New Source Performance Standards for Small Industrial Steam Generating Units the proposed auxiliary boiler is subject to the following requirements of Subpart Dc:

- (a) Notification include the following information:
 - (1) The design heat input capacity, and to identify the types of fuels to be combusted.
 - (2) The anticipated annual operating hours based on each individual fuel fired.
- (b) The owner or operator record and maintain records of the amounts of each fuel combusted during each day. All records required shall be maintained for a period of two (2) years following the date of such record.

D.3.8 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit is required for the auxiliary boiler.

Compliance Determination Requirements

D.3.9 Performance Testing

- (a) For compliance purposes auxiliary boiler emissions shall be calculated using the emission factors for small boilers with low NO_x burners in USEPA's AP-42 Section 1.4 (07/1998) and the measured heating value.
- (b) IDEM, OAQ retain the authority under 326 IAC 2-1-4(f) to require the Permittee to perform additional and future compliance testing as necessary.

Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.3.10 Record Keeping Requirements

- (a) The Permittee shall maintain records of the amount of natural gas combusted for auxiliary boiler during each month.

- (b) All records shall be maintained in accordance with Section C – General Record Keeping Requirements.

D.3.11 Reporting Requirements

The Permittee shall submit the following information on a quarterly basis: a summary of the information as per requirements of D.3.7 to the addresses listed in Section C - General Reporting Requirements, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

SECTION D.4 FACILITY CONDITIONS – Backup Equipment

One (1) emergency diesel generator utilizing low sulfur diesel fuel, with a maximum capacity of 300 KW and exhausts to stack designated as S7.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards

D.4.1 BACT Limitation [326 IAC 2-2]

Pursuant to 326 IAC 2-2 (PSD Requirements) the diesel fired emergency generator shall comply with the following:

- (a) The total fuel input for generator shall not exceed 14,210 gallons per twelve (12) consecutive month period, rolled on a monthly basis. This is equivalent to 500 hours of operation in a year.
- (b) The sulfur content of the diesel fuel used by the fire pump shall not exceed 0.05 percent by weight.
- (c) Perform good combustion practice.

Compliance Determination Requirements

D.4.2 Testing Requirements [326 IAC 2-1.1-11]

The Permittee is not required to test these emissions units by this permit. However, IDEM may require compliance testing when necessary to determine if the emissions unit is in compliance. If testing is required by IDEM, compliance shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.4.3 Record Keeping Requirements

To document compliance with Conditions D.4.1, the Permittee shall maintain records of the following:

- (1) Amount of diesel fuel combusted each month in the emergency generator.
- (2) The percent sulfur content of the diesel fuel.

D.4.4 Reporting Requirements

A quarterly summary of the information to document compliance with D.4.1 shall be submitted to the address listed in Section C – General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

MALFUNCTION REPORT

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY FAX NUMBER - 317 233-5967

**This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6
and to qualify for the exemption under 326 IAC 1-6-4.**

THIS FACILITY MEETS THE APPLICABILITY REQUIREMENTS BECAUSE IT HAS POTENTIAL TO EMIT 25 LBS/HR PARTICULATE MATTER ?_____, 100 LBS/HR VOC ?_____, 100 LBS/HR SULFUR DIOXIDE ?_____, OR 2000 LBS/HR OF ANY OTHER POLLUTANT ?_____. EMISSIONS FROM MALFUNCTIONING CONTROL EQUIPMENT OR PROCESS EQUIPMENT CAUSED EMISSIONS IN EXCESS OF APPLICABLE LIMITATION _____.

THIS MALFUNCTION RESULTED IN A VIOLATION OF: 326 IAC _____ OR, PERMIT CONDITION # _____ AND/OR PERMIT LIMIT OF _____

THIS INCIDENT MEETS THE DEFINITION OF 'MALFUNCTION' AS LISTED ON REVERSE SIDE ? Y N

THIS MALFUNCTION IS OR WILL BE LONGER THAN THE ONE (1) HOUR REPORTING REQUIREMENT ? Y N

COMPANY: _____ PHONE NO. () _____
LOCATION: (CITY AND COUNTY) _____
PERMIT NO. _____ AFS PLANT ID: _____ AFS POINT ID: _____ INSP: _____
CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND REASON: _____

DATE/TIME MALFUNCTION STARTED: ____/____/20____ _____ AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: _____

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE ____/____/20____ _____ AM/PM

TYPE OF POLLUTANTS EMITTED: TSP, PM-10, SO₂, VOC, OTHER: _____

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: _____

MEASURES TAKEN TO MINIMIZE EMISSIONS: _____

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL* SERVICES: _____
CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS: _____
CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT: _____
INTERIM CONTROL MEASURES: (IF APPLICABLE) _____

MALFUNCTION REPORTED BY: _____ TITLE: _____
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY: _____ DATE: _____ TIME: _____

Please note - This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6 and to qualify for the exemption under 326 IAC 1-6-4.

326 IAC 1-6-1 Applicability of rule

Sec. 1. This rule applies to the owner or operator of any facility required to obtain a permit under 326 IAC 2-5.1 or 326 IAC 2-6.1.

326 IAC 1-2-39 “Malfunction” definition

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner.

***Essential services** are interpreted to mean those operations, such as, the providing of electricity by power plants. Continued operation solely for the economic benefit of the owner or operator shall not be sufficient reason why a facility cannot be shutdown during a control equipment shutdown.

If this item is checked on the front, please explain rationale:

**Indiana Department of Environmental Management
Office of Air Quality
Compliance Data Section**

Quarterly Report

Company Name: Allegheny Energy Supply, LLC
Location: Corner of Walnut and Edison, New Carlisle, Indiana
Permit No.: CP-141-14198-00543
Source: Emergency generator
Limit: 14,210 gallons per twelve (12) consecutive month period

Year: _____

Month	Column 1 Diesel Fuel Oil Usage (gallons/month)	Column 2 Diesel Fuel Oil Usage for previous 11 months (gallons)	Column 1 + Column 2 Diesel Fuel Oil Usage for twelve month period (gallons)

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

**Indiana Department of Environmental Management
Office of Air Quality
Compliance Data Section**

Quarterly Report

Company Name: Allegheny Energy Supply Company, LLC
Location: Corner of Walnut and Edison, New Carlisle, Indiana
Permit No.: CP-141-14198-00543
Source: one (1) power block consisting of two (2) natural gas fired combined cycle combustion turbines
Limit: 210 events (an event is one startup and one shutdown) for the power block, and 584 hours for events in a 12 consecutive month period

Year: _____

Month	Column 1 Events (This month)		Column 2 Number of events previous 11 months		Column 1 + Column 2 Number of events for twelve month period	
	Number	Hours	Number	Hours	Number	Hours

No deviation occurred in this month

Deviation/s occurred in this month.
Deviation has been reported on:

Submitted by: _____
Title/Position: _____
Signature: _____
Date: _____
Phone: _____

**Indiana Department of Environmental Management
Office of Air Quality
Compliance Data Section**

Quarterly Report

Company Name: Allegheny Energy Supply Company, LLC
Location: Corner of Walnut and Edison, New Carlisle, Indiana
Permit No.: CP-141-14198-00543
Source: two (2) natural gas fired simple cycle combustion turbines
Limit: 500 events (an event is one startup and one shutdown) per turbine, and 175 hours for events in a 12 consecutive month period

Year: _____

Month	Column 1 Events (This month)		Column 2 Number of events previous 11 months		Column 1 + Column 2 Number of events for twelve month period	
	Number	Hours	Number	Hours	Number	Hours

No deviation occurred in this month

Deviation/s occurred in this month.
Deviation has been reported on:

Submitted by: _____
Title/Position: _____
Signature: _____
Date: _____
Phone: _____

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

SEMI-ANNUAL NATURAL GAS FIRED BOILER CERTIFICATION

Company Name: Allegheny Energy Supply Company, LLC
Location: Corner of Walnut and Edison, New Carlisle, Indiana
Permit No.: CP-141-14198-00543

Natural Gas Only Alternate Fuel burned	
From: _____	To: _____

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Phone:

Date:

A certification by the responsible official as defined by 326 IAC 2-7-1(34) is required for this report.